

A white dog is running away from the camera on a narrow, rocky path. To the left is a sandy beach meeting the ocean. To the right is a marshy area with shallow water and reeds. In the background, there are houses and trees under a clear sky.

# **Borough of Fenwick Hepburn Preserve**

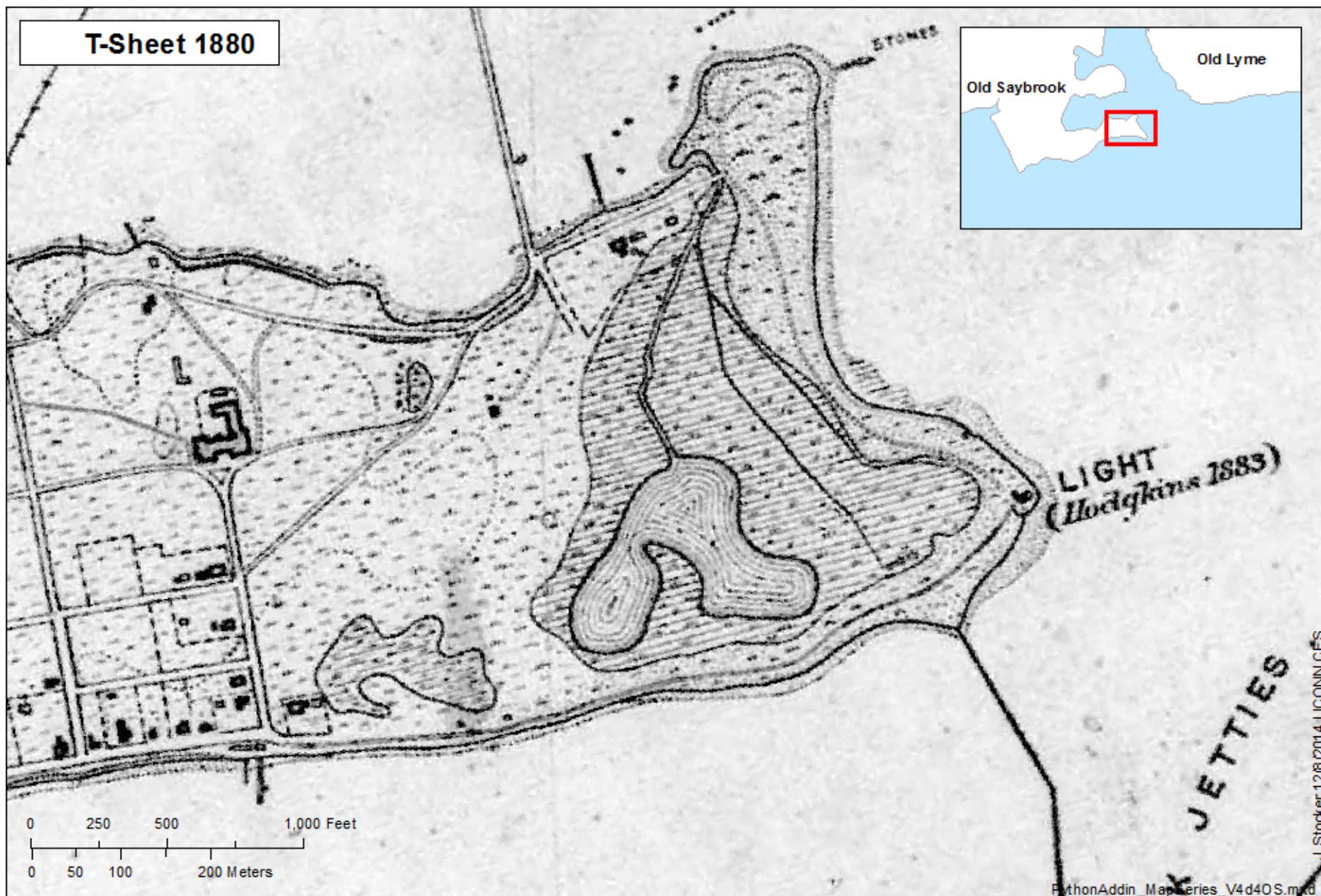
## **Dune & Marsh Preservation Project**

**CIRCA Connecticut Living Shorelines Workshop  
November 20, 2017**



Project Location

T-Sheet 1880



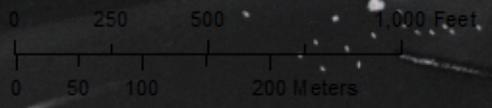
March 1934



0 250 500 1,000 Feet  
0 50 100 200 Meters

CT State Library for the scanned aerial photographs. The University of Connecticut Library  
MAGIC program for the online access to scanned historic images. The University of Connecticut  
Cooperative Extension System for rectifying the images. PythonAddin\_MapSeries\_V4d40S.mxd

March 1957



March 1965



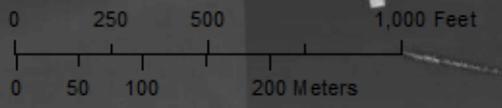
0 250 500 1,000 Feet

0 50 100 200 Meters

March 1990



March 2004



June 2006

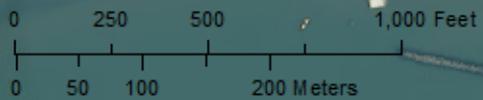


0 250 500 1,000 Feet  
0 50 100 200 Meters

PythonAddin\_MapSeries\_V4d40S.mxd

J. Stocker 12/8/2014 UCONN.CES

June 2010



March 2012



0 250 500 1,000 Feet

0 50 100 200 Meters

November 2012



0 250 500 1,000 Feet  
0 50 100 200 Meters

A photograph of a marsh restoration project. In the center, a wooden structure stands in a field of tall green grasses. The structure consists of a vertical post with a horizontal crossbar near the top, and a square wooden platform at the very top. The platform is filled with sticks, twigs, and some blue plastic debris. A thick, dark, vertical rope or cable hangs from the platform down to the ground. The background shows a vast, flat marsh area with scattered trees and a clear blue sky. The text "Marsh Restoration Project 2001" is overlaid in large, bold, black letters across the middle of the image.

**Marsh Restoration Project  
2001**

# Phragmites Infestation - Fenwick



# Sound Outlook, June 2003

## Lynde Point Marsh to be Restored Through National Grant

**I**n the last issue of *Sound Outlook* we described Connecticut's tidal wetland restoration program. This issue, we are pleased to report another step forward in this successful initiative. The DEP's Office of Long Island Sound Programs has received a grant of \$80,000 from the U.S. Fish & Wildlife Service's National Coastal Wetlands Conservation Grant Program to restore the 10-acre Lynde Point marsh in the borough of Fenwick in Old Saybrook. The total estimated cost of the project, which will forward the goals of the Long Island Sound Habitat Restoration Initiative, is \$221,000.

The Lynde Point marsh, which was filled with dredged spoils during dredging of the Connecticut River in the 1940s, has lost all natural wetland functions and values, and is now dominated by common reed,

*Phragmites australis*. The wetland, which will be restored through the removal of the clean, sandy dredge sediments and the construction of several small ponds, will provide habitat for forage species such as Atlantic silverside, killifish, bay anchovy, grass shrimp and bay shrimp. These species will, in turn, support larger fish, osprey, bald eagles wading birds and terns.



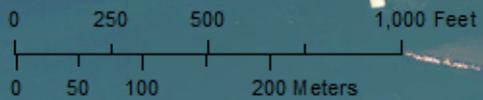
Coastal grassland and remnants of historic maritime shrubland and forest which were cleared for farmland in the 1800s are also associated with the wetland restoration site, and are threatened by non-native invasive plants including bittersweet, multiflora rose and bush honeysuckle. These species will be removed and a healthy native plant community restored.

The Lynde Point restoration project will be conducted by the DEP's Wetland Restoration Unit using a variety of equipment designed specifically for work in wetlands. All work will be completed between October 1, 2002 and December 31, 2003. For more information, contact Lori Benoit of OLISP at 860-424-3034 or by email at [lori.benoit@po.state.ct.us](mailto:lori.benoit@po.state.ct.us).

June 2004



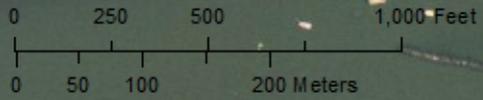
before



June 2006



after





## In Support of Fenwick's Marsh Restoration Project

Saturday, August 9, 2003

### Family Fun Day

At the Pier

FOR ALL FENWICKIANS

11 AM to 3 PM

#### 11 AM MARSH MADNESS Bike Parade

Must be 'Mensly Creative, From Flag Pole to the Pier

#### 11 AM-3 PM Family Fun Day Carnival

Madly Fun 'Family' Booths – Momentous Osprey Shoot Out  
Face Painting – Mischievous Dunking Machine & More

**Cookout Lunch**

Miraculous Prizes for All

#### 3 PM MESMERIZING MARSH HOLE-IN-ONE

For a Brand New Golf Cart at the Brainard Hole

#### 11 AM – 4:30 PM – Silent Auction Masterpieces

### AN EVENING OF MARSH MADNESS

AT THE MARSH TENT: 12 NEPONSET AVE., FENWICK

**6-9 PM**

**MARSH MARGUERITAS, MARTINIS, & MORE**

**MARVELOUS MUNCHIES, MAD 'MOSH' FUN**

AND

**MAGNIFICENT SILENT AND LIVE AUCTIONS**

Invitations for "An Evening of Marsh Madness" will be mailed to you.  
Bring Your Friends! This Marsh Madness Evening is by Invitation only.





# **Hepburn Dune Restoration Project 2007**



Filtrex<sup>®</sup> tubing was filled with sand and mulch...



and used to rebuild  
the dunes.





The reconstruction  
was completed in the  
fall of 2007 and...





planted in March 2008  
with American beach  
grass and switch grass.





The grasses became well established...



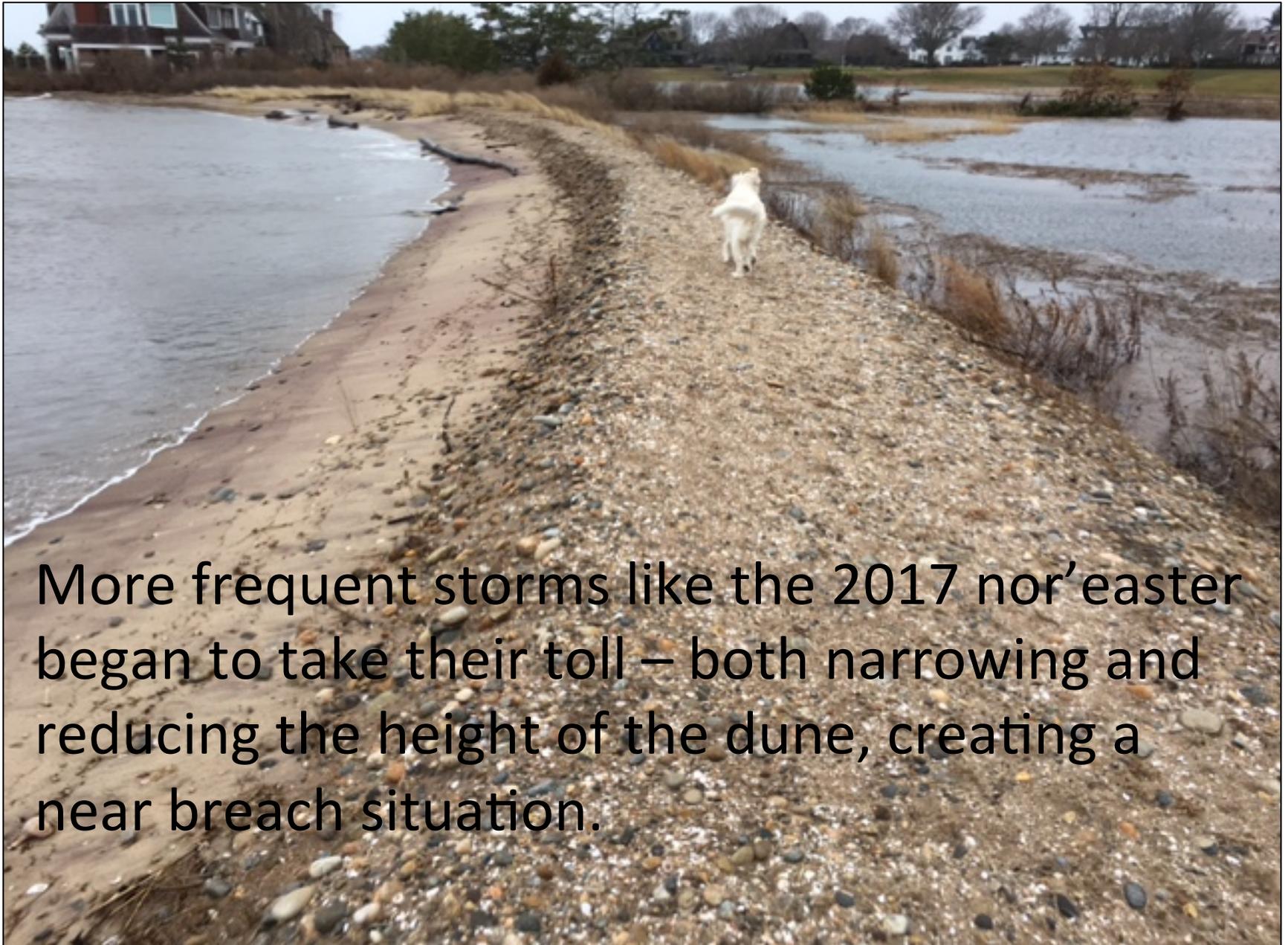
until Irene and then Sandy hit.



The back to back storms tore out the socks...



and deposited sand in the marsh.



More frequent storms like the 2017 nor'easter began to take their toll – both narrowing and reducing the height of the dune, creating a near breach situation.

# Dune and Marsh Preservation Project

An aerial photograph showing a coastal landscape. In the foreground, there is a large body of water. A sandy dune runs along the coast. Behind the dune, there is a marshy area with a small pond. To the left, there is a residential area with several houses and a golf course. A white rectangular box highlights a specific area in the marsh, labeled "Project Site".

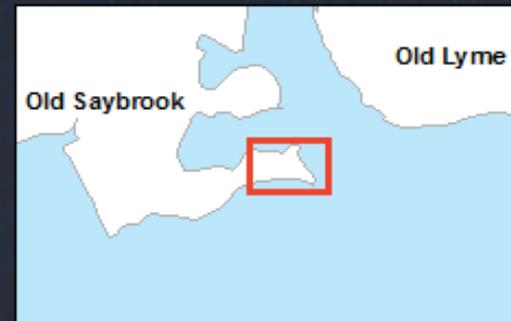
Project Site



In a very high tide, there is very little dune between the beach and Lynde Point marsh / Crab Creek.

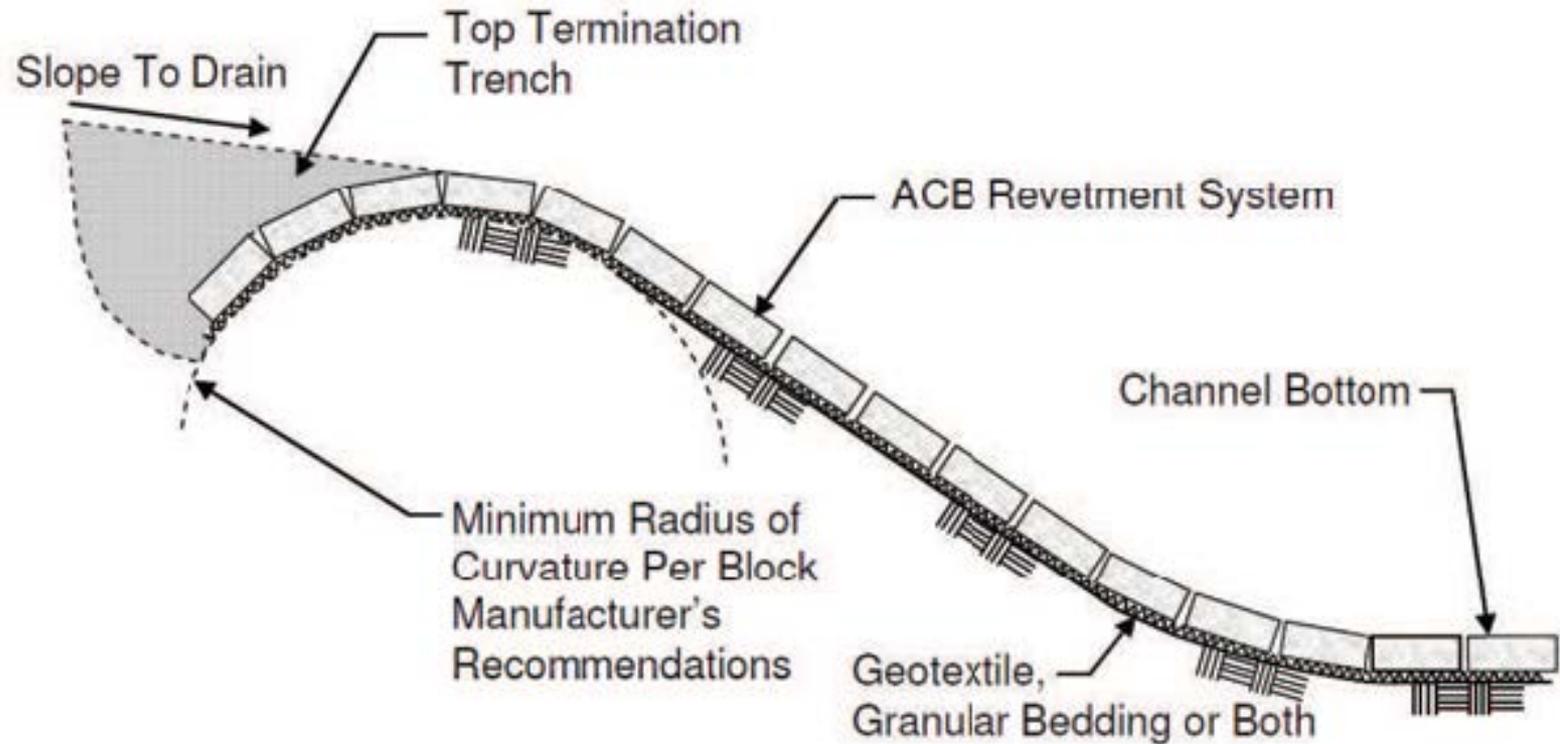


November 2012



A breach in the dune will allow Crab Creek to flow between Long Island Sound and South Cove, changing the salinity in the marsh, modifying the habitat, and effectively cutting the Borough in two.

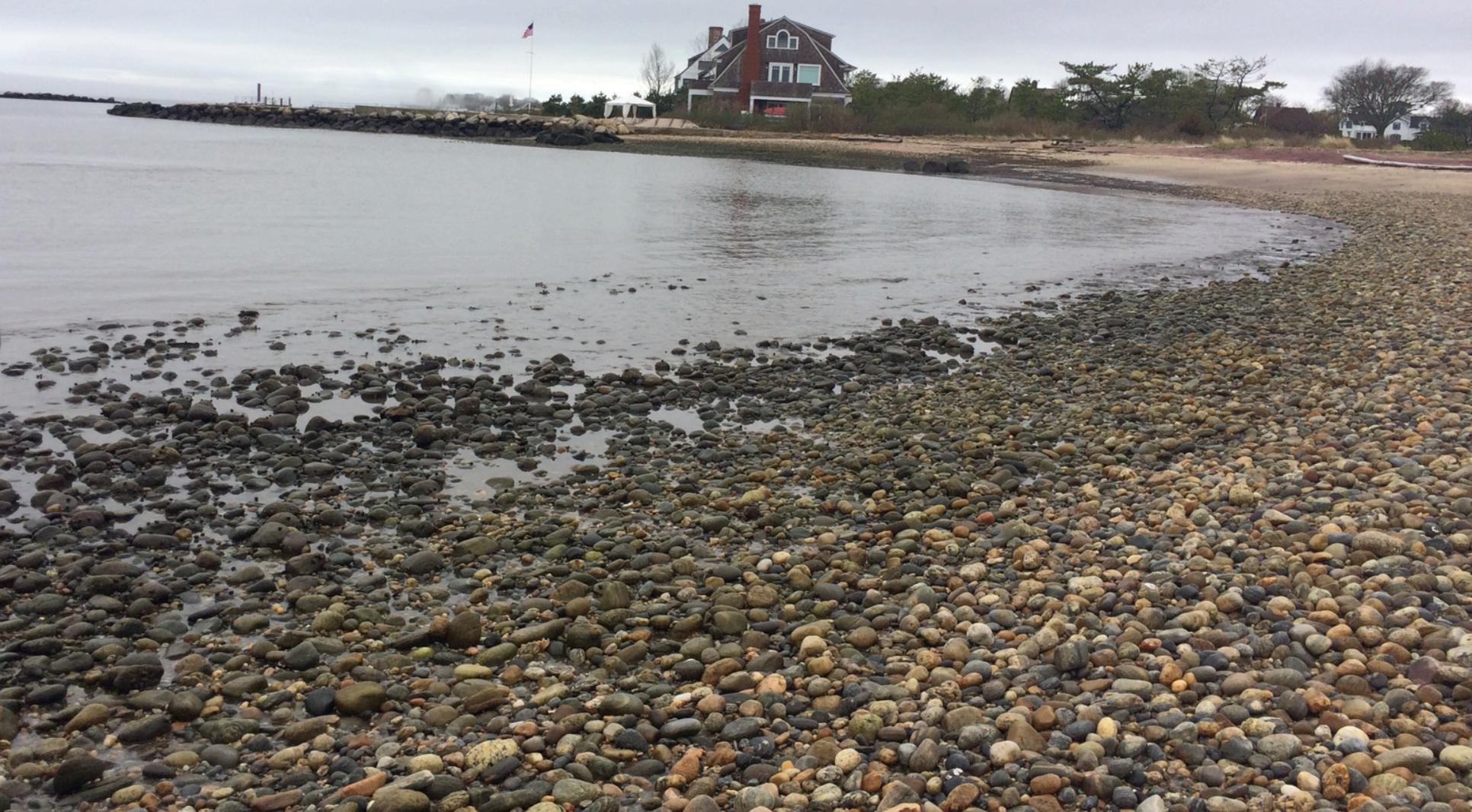
250 500 1,000 Feet  
50 100 200 Meters



To prevent a breach, the Borough considered an articulated concrete mat on the waterward side of the dune with planting within the cells of the concrete.

Site Visit – April, 2017

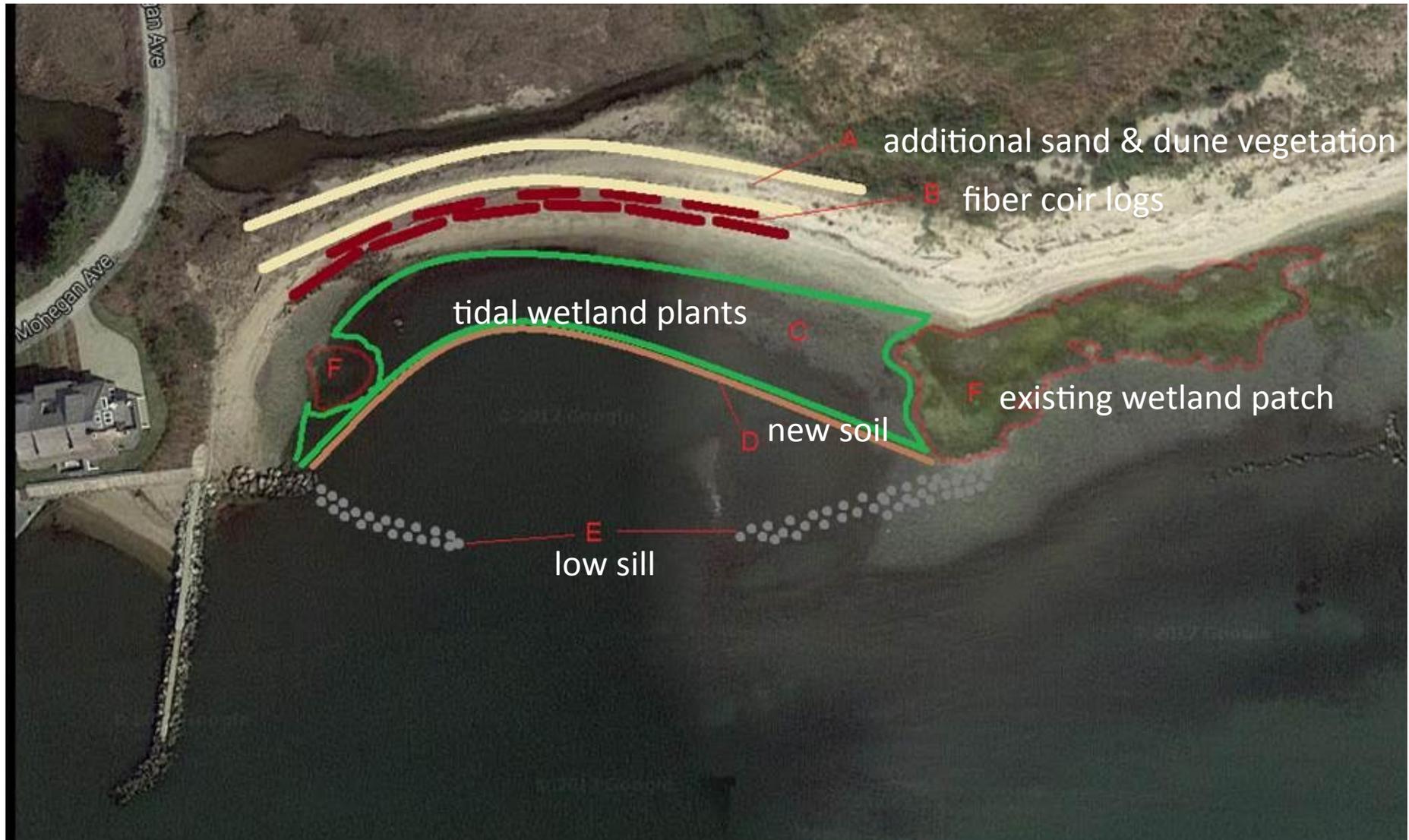
Wave action has stripped most of the sand and vegetation from the area in front of the dune...



But along the eastern end of the project area, an existing rock sill has attenuated the waves sufficiently to protect both sand and vegetation.



People were ready to consider alternative solutions.





**Borough of Fenwick  
Hepburn Dune and Marsh Preservation Project  
Old Saybrook, Connecticut  
June 9, 2017**

**Coastal Engineering Services  
Request for Qualifications and Proposal**

**Introduction:** The Borough of Fenwick is a municipality in the State of Connecticut which is located at the mouth of the Connecticut River at its confluence with Long Island Sound, and has the following Boards and Commissions: A Board of Warden and Burgesses; Planning and Zoning Commission; Park Commission; Zoning Board of Appeals; Historic District Commission; and Harbor Management Commission.

The Borough of Fenwick (BOF) Government mission is to provide an effective network of public services in a responsible and efficient manner supporting the common good of our community. In so doing, our commitment is to enhance the ecological sustainability of our coastal resources and improve access to/from our community in a safe and efficient manner.

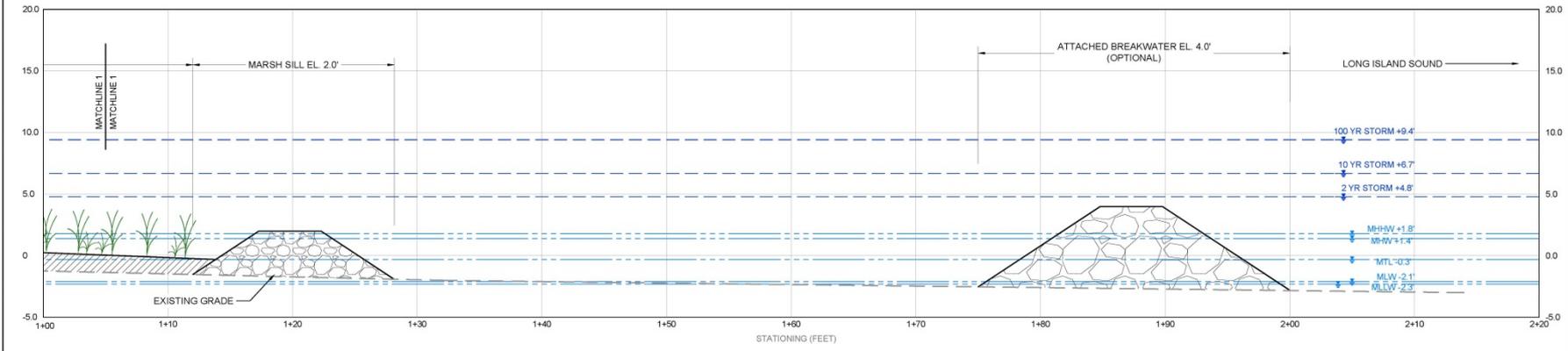
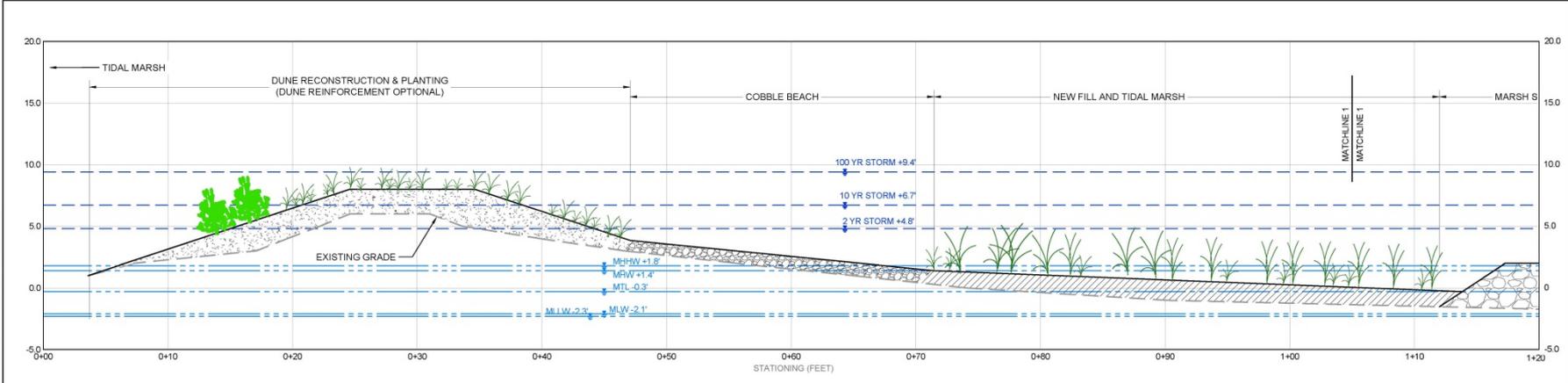
**Invitation & Summary:** The BOF is soliciting a Statement of Qualifications and Proposals from a select group of Coastal Engineers for the development of a plan for the restoration of an approximate 450-foot long section of dune and associated tidal marsh fronting on Long Island Sound. As shown on the



# GZA GeoEnvironmental



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**HEPBURN DUNE RESTORATION**  
**BOROUGH OF FENWICK**  
**OLD SAYBROOK, CONNECTICUT**

**LIVING SHORELINE ALTERNATIVE**  
**CROSS SECTION**

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DESIGNED BY:	JB	CHECKED BY:	DS
DRAWN BY:	JJZ	SCALE:	AS SHOWN
DATE:	NOVEMBER, 2017	PROJECT NO:	03 0034368.00
		REVISIONS:	0

**FIGURE**  
2  
SHEET NO. 2 OF 2

**DRAFT - WORK IN PROCESS**





# Questions